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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,964	09/10/2003	Hiroshi Sakakima	YAMAP0721USB	5878
43076	7590	04/20/2005	EXAMINER	
MARK D. SARALINO (GENERAL) RENNER, OTTO, BOISELLE & SKLAR, LLP 1621 EUCLID AVENUE, NINETEENTH FLOOR CLEVELAND, OH 44115-2191			DINH, TAN X	
			ART UNIT	PAPER NUMBER
			2653	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,964

Applicant(s)

SAKAKIMA ET AL.

Examiner

TAN X. DINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60-63 is/are allowed.
- 6) ☒ Claim(s) 56-59 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/603,072.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/10/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

1) This application is a Divisional Application of S/N 10/293,420, filed 11/12/2000 and now is US 6,650,598; which is a Divisional Application of S/N 09/603,072, filed on 6/26/2000, and now is US 6,650,598; which has foreign priority claimed to foreign application filed in JAPAN as:

- JAPAN 11-177,911, filed on 6/24/1999.
- JAPAN 11-254,417, filed on 9/08/1999.
- JAPAN 2000-189,846, filed on 6/23/2000.

2) Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/603,072, filed on 6/26/2000.

3) The preliminary amendment filed 9/10/2003 is acknowledged. Claims 1-55 have been canceled.

4) The I.D.S filed 9/10/2003 has been considered by the Examiner. However, the Japan and/or foreign document(s), if they have not been written in English, are considered to the extent that could be understood from the English Abstract and the drawings.

Form PTO-1449 or PTO/SB/08 is(are) attached herein.

5) The following is a quotation of 35 U.S.C. 103(a) which

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forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7) Claims 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over YODA et al (6,369,992 and 6,256,171).

YODA et al (-992) discloses a recording and reproducing apparatus as claimed in claim 56, comprises a first magnetic head for recording a signal onto a recording medium (Figure 16, write

head), a first substrate (Fig.1, substrate 21), a first magnetic head core provided on first substrate having a first gap (Fig.16, yoke 24 and gap 25. See figure 13 with detail of yoke 24 comprises magnetic core 37), a coil provided in such a manner that at least a portion of the magnetic head core is surrounded by the coil (Fig.16, coil 39 surrounds the yoke 24 and 24'), a second magnetic head comprises a second substrate (Fig.1, substrate 21), a second magnetic head core provided on the second substrate having a second magnetic gap (Fig.16, 24), a first magnetoresistance device provided on the second magnetic head core (Fig.16, magnetoresistance device 26, 27). However, YODA et al (-992) did not specific shows that the thickness direction of magnetic head core around the magnetic gap is substantially the same as a track width direction of the recording medium. YODA et al (-171) teaches a combination of write head and read head (figure 3, write head with cores 31,32, coil 41 and read head 38) and the thickness direction of magnetic head core around the magnetic gap is substantially the same as a track width direction of the recording medium (figures 1-3, direction of track width TW, direction moving of the head P, and thickness of magnetic cores 31, 32 and the gap 33. See also column 8, lines 1-50, column 10, lines 49-65, figure 6 for direction of track width and core thickness). It would have been obvious to someone within the level of skill in the art at the time of the invention was made to use a magnetic head with the magnetic

head core around the magnetic gap is substantially the same as a track width direction as taught by YODA et al (-171) in YODA et al (-992)'s magnetic head, the rationale is as follows:

YODA et al (-992) in column 3, lines 31-34 teaches that (i) the track-width is defined by the thickness of the yoke (magnetic core), narrow track of 1 μ m or less can be easily fabricated by using the film yoke (it is noted that, in order for thickness direction of magnetic core to be substantially the same as track width direction, the thickness of the magnetic core must be the same or equal track width) and (ii) the read head and write head are place side-by-side with each other, divides by an insulation layer, having the same gap, substrate and magnetic core thickness (figure 16, write head and read head, yoke 24, gap 25). Since the teaching of YODA et al (-992) clearly suggests for someone within the level of ordinary skill in the art to combine the well known teaching of YODA et al (-171), one with ordinary skill at the time of the invention was made would have been motivated to use the teaching of YODA et al (-992) and the magnetic head with the core thickness direction substantially the same as a track width direction as taught by YODA et al (-171) in order to reduce the track width for high density recording.

As to claim 57, YODA et al (-992) shows the first substrate and the second substrate are the same substrate (Fig.16, the write

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head and read head are placed side-by-side which have the same magnetic yoke(core) and substrate).

As to claims 58 and 59, it would have been obvious to use a second magnetoresistance device on the second magnetic head since it is common knowledge in the art for use a symmetry magnetoresistance devices for reducing thermal noise and S/N ration.

8) Claims ~~60-63~~ are allowed.

9) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (See form PTO-892 attached herein).

Applicant is reminded that in amending in response to a rejection of claims (if the rejection involves with any applicable arts), the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR §1.111(c).

10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAN X. DINH whose telephone number is (571)272-7586. The examiner can normally be reached on Monday - Friday, 8:00AM - 5:30PM.

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The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



TAN DINH
PRIMARY EXAMINER

April 15, 2005